

REMARKS

Entry of this Response is solicited on the ground that it places the case in condition for allowance or at least in better condition for appeal. Furthermore, this Response is believed to reduce the issues involved.

Claims 131-151 are in the case. Claims 131, 135, and 142 have been amended to even more clearly delineate the inventive differences between the present invention and the applied Goodenough and Dallmier references taken with the McKinnie declaration. The Examiner is sincerely thanked for bringing to our attention the fact that Claim 131 allows for the inclusion of bromine chloride or bromine and chlorine (although obviously not intended). This has been remedied by the above Amendment which makes clear that the bromine of (i) is the only bromine source used in the process.

The Examiner is also thanked for bringing to our attention the fact that Claims 135 and 142 allow for the inclusion of bromine chloride or bromine and chlorine (again, obviously not intended). This has been remedied by specifying that the bromine referred to in the respective claims is the only source of bromine used in the process. It will be recalled that in the amendment filed June 8, 2009 in this application, Claims 131-151 added by that amendment are directed to the originally presented invention of using bromine in the process. The bromine chloride subject matter has been carried forward in Application No. 12/480,021 filed June 8, 2009.

Claims 131-151 are rejected under 35 U.S.C. 103(a) as unpatentable in over Goodenough (3,558,503) in view of Dallmier and the McKinnie declaration.

At the outset, it is respectfully submitted that the combination of Goodenough and Dallmier is an improper combination of references because Dallmier, after criticizing, discrediting and otherwise discouraging use of the Goodenough process, sets forth a process which is completely different from that of Dallmier. Thus, it is submitted that when the teachings of both references are considered as a whole, rather than selecting individual portions therefrom, it is clear that the rejection is based on a pair of references which are inconsistent with each other and opposed to each other. Indeed, a reading of Dallmier shows

that Dallmier regards the Goodenough process to be hazardous because of the formation of bromate, a suspected carcinogen, and that the way to avoid this is to conduct the process described by Dallmier. Thus, reconsideration of the Rejection, which requires the combination of Goodenough and Dallmier, is respectfully requested.

In support of the rejection, the Action suggests that the mixing of magnesium hydroxide with sulfamic acid in accordance with the Goodenough teaching results in an alkaline earth metal salt of sulfamic acid which is functionally equivalent to the instant alkali metal salt (sodium) of sulfamic acid. However, we respectfully point out that the results achieved as between the alkaline earth metal (Mg) salt of sulfamic acid and the alkali metal salt (Na) of sulfamic acid are considerably different from each other. First of all, the highest pH achieved by Goodenough is 9.6 (Table 1, Run Nos. 3, 5 and 7 and Column 4, line 2). In the present process, the pH during the process is always in the range of about 12 to about 14. Moreover, according to the Goodenough teachings, the final solution is said to achieve a maximum of "100,000 ppm by weight of bromine values." (Column 1, lines 65-66) and in the preferred embodiments of Goodenough, the maximum value is about "up to 50,000 ppm by weight of the solution." (Column 2, lines 68-69). On the other hand, in many of the claims of the present application, the active bromine content is at least about 100,000 ppm wt/wt, and as shown by Example 2 of the present application an active bromine content as high as 196,000 ppm (19.6%) was readily accomplished.

Although the Office Action acknowledges that Goodenough's method of making a product solution having a bromine content of about 100,000 ppmw differs from the method of the present claims in the pH of the resulting biocide composition, the Action fails to acknowledge a further fundamental difference that exists between the respective processes in that the presently-claimed methods enable the pH of the reaction product to be in the range of about 12 to about 14 at all times during the process by virtue of the co-feeding of the reactants as specified in the claims. Indeed this fundamental difference exists not only between the present application and Goodenough but also this fundamental difference exists between the present application and Dallmier. In fact, Dallmier actually requires the formation of an unstabilized composition containing alkali or alkaline earth metal hypobromite which is obtained over a period of time in order to form a 0.5 to 30% wt

aqueous solution of unstabilized alkali or alkaline earth metal hypobromite which after such formation is treated with a sodium sulfamate stabilizer solution, a procedure which goes directly opposite to the presently claimed procedure wherein the active bromine solution is stabilized throughout the reaction period. Thus even if the applied references are read in combination with each other, neither reference provides even a hint of how to achieve such constant pH conditions during the entire process.

The Office Action correctly quotes Dallmier as disclosing a process that “improves on the Goodenough reference by means of a safer, easier, and more economical process.” We submit that this quotation actually supports the position that Dallmier, in his own words, does not improve on the process of Goodenough -- instead Dallmier improves on the Goodenough disclosure by providing a safer, easier, and more economical process, i.e., a different process from that of Goodenough. This in turn necessarily means that Dallmier not only points out many deficiencies and shortcomings of the Goodenough process but additionally discards the Goodenough process and provides as a replacement, a different process, which is safer, easier, and more economical. Thus Dallmier actually supports our position stated at the outset that Goodenough and Dallmier are not properly combinable as references.

We respectfully disagree with the observation in the Office Action, in the last three lines on Page 3 thereof, that “As taught by Dallmier the formation of bromate occurs from a reaction involving hypobromite as a reactant and stabilized hypobromite (Column 3, lines 24-26; Column 10, lines 1-8)”. In fact what Dallmier actually teaches is that bromate formation occurs because of disproportionation of hypobromite in alkaline or elevated pH environments (Column 3, lines 24-26 and Column 10, lines 1-8). No stabilized hypobromite is involved in these disproportionation reactions. Thus, Dallmier leads away from the presently-claimed invention by discouraging the formation of a stabilized bromine biocide composition at high pH values.

At the bottom of Page 5 of the Office Action, it is stated that “The Examiner argues that it is important to note that one of the main reasons for employing Dallmier is to provide the motivation for arriving at biocidal composition having a pH ranging from 12 to 14.” It is

respectfully submitted that selecting such a small portion from the Dallmier disclosure while ignoring the emphasis placed by Dallmier on using his reagents and his “critical” sequence of steps constitutes, albeit unintentionally, hindsight selection using Applicants’ specification as the blueprint. It is further submitted that in the face of Dallmier’s extensive criticism and discrediting of the Goodenough disclosure, one of ordinary skill in the art would be discouraged from proceeding with the Goodenough approach, but rather would be clearly led to follow the overall “critical” sequence process approach emphasized by Dallmier.

The contention in the Action at the top of page 5, that no data has been provided by Applicants with respect to the significance of the instant ordering in the formation of the liquid biocide, has been noted. However, it is submitted that since no prima facie case of obviousness has been established, it is not necessary for Applicants to provide any such data. The Goodenough process approach has been effectively demolished by Dallmier and Dallmier discloses a process approach which is not suggestive of the present invention as claimed.

In view of the comments presented above, it is believed that the rejection of the present claims has been shown to be untenable and insupportable. Accordingly, it is respectfully requested that the rejection under Section 103 be reconsidered and withdrawn so that the claims may be allowed. Such action is earnestly solicited.

If, however, any matters remain requiring further consideration, it is respectfully requested that the Examiner telephone the undersigned so that such matters may be discussed and, if possible, be promptly resolved.

Please continue to address all correspondence in this Application to Albemarle Corporation, at their address of record.

Respectfully submitted,
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